

## High Motivational Salient Face Distractors Slowed Target Detection: Evidence from Behavioral Studies

**Authors :** Rashmi Gupta

**Abstract :** Rewarding stimuli capture attention involuntarily as a result of an association process that develops quickly during value learning, referred to as the reward or value-driven attentional capture. It is essential to compare reward with punishment processing to get a full picture of value-based modulation in visual attention processing. Hence, the present study manipulated both valence/value (reward as well as punishment) and motivational salience (probability of an outcome: high vs. low) together. Series of experiments were conducted, and there were two phases in each experiment. In phase 1, participants were required to learn to associate specific face stimuli with a high or low probability of winning or losing points. In the second phase, these conditioned stimuli then served as a distractor or prime in a speeded letter search task. Faces with high versus low outcome probability, regardless of valence, slowed the search for targets (specifically the left visual field target) and suggesting that the costs to performance on non-emotional cognitive tasks were only driven by motivational salience (high vs. loss) associated with the stimuli rather than the valence (gain vs. loss). It also suggests that the processing of motivationally salient stimuli is right-hemisphere biased. Together, results of these studies strengthen the notion that our visual attention system is more sensitive to affected by motivational saliency rather than valence, which termed here as motivational-driven attentional capture.

**Keywords :** attention, distractors, motivational salience, valence

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